

1 We claim:

1 1. A drilling fluid comprising an invert emulsion wherein said invert emulsion has a base or
2 continuous phase comprising a blend of esters and isomerized olefins.

1 2. The drilling fluid of claim 1 wherein said isomerized olefins have a straight chain structure.

1 3. The drilling fluid of claim 1 wherein said isomerized olefins have a branched structure.

1 4. The drilling fluid of claim 1 wherein said isomerized olefins have a cyclic structure.

1 5. The drilling fluid of claim 1 wherein said isomerized olefins have about 10 to about 30
2 carbon atoms.

1 6. The drilling fluid of claim 1 wherein said isomerized olefins comprise about 1 to about 99
2 weight percent of said blend.

1 7. The drilling fluid of claim 1 wherein said esters comprise about 5 to about 99 weight percent
2 of said blend.

1 8. The drilling fluid of claim 1 wherein said esters are prepared from fatty acids and alcohols.

- 1 9. The drilling fluid of claim 1 wherein said esters are prepared from fatty acids having about
2 6 to about 14 carbon atoms and an alcohol.
- 1 10. The drilling fluid of claim 1 wherein said esters are prepared from fatty acids having about
2 12 to about 14 carbon atoms and 2-ethyl hexanol.
- 1 11. The drilling fluid of claim 1 wherein said esters are prepared from fatty acids having about
2 8 carbon atoms and 2-ethyl hexanol.
- 1 12. The drilling fluid of claim 1 wherein said esters are prepared from olefins.
- 1 13. The drilling fluid of claim 1 wherein said esters are prepared from olefins and fatty acids or
2 alcohols.
- 1 14. A drilling fluid comprising an invert emulsion wherein said invert emulsion has a base or
2 continuous phase comprising a blend of esters and olefin hydrocarbons.
- 1 15. The drilling fluid of claim 14 wherein said olefin hydrocarbons are selected from the group
2 comprising branched olefins, poly-branched olefins, and mixtures thereof.
- 1 16. The drilling fluid of claim 15 wherein at least one double bond site is either internal the
2 molecule or at the alpha position of the molecule.

- 1 17. The drilling fluid of claim 14 wherein said olefin hydrocarbons comprise linear olefins where
2 the double bond site or sites are internal the molecule.
3
- 4 18. The drilling fluid of claim 14 wherein said olefin hydrocarbons comprise about 10 to about
5 30 carbon atoms.
- 6 19. The drilling fluid of claim 14 wherein said olefin hydrocarbons comprise about about 1 to
7 about 99 weight percent of said blend.
8
- 9 20. The drilling fluid of claim 14 wherein said esters comprise about 10 to about 99 weight
10 percent of said blend.
11
- 12 21. The drilling fluid of claim 14 wherein said esters are prepared from fatty acids and alcohols.
- 13 22. The drilling fluid of claim 14 wherein said esters are prepared from fatty acids having about
14 6 to about 14 carbon atoms and an alcohol.
15
- 16 23. The drilling fluid of claim 14 wherein said esters are prepared from fatty acids having about
17 12 to about 14 carbon atoms and 2-ethyl hexanol.
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- 1 24. The drilling fluid of claim 14 wherein said esters are prepared from fatty acids having about
2 8 carbon atoms and 2-ethyl hexanol.
- 1 25. The drilling fluid of claim 14 wherein said esters are prepared from olefins.
- 1 26. The drilling fluid of claim 14 wherein said esters are prepared from olefins and fatty acids
2 or alcohols.
- 2 27. A drilling fluid comprising an invert emulsion wherein said invert emulsion has a base or
continuous phase comprising a blend of esters and paraffin hydrocarbons.
- 3 28. The drilling fluid of claim 27 wherein said paraffin hydrocarbons are selected from the
group comprising linear paraffins, branched paraffins, poly-branched paraffins, cyclic
paraffins, isoparaffins, and mixtures thereof.
- 1 29. The drilling fluid of claim 27 wherein said paraffin hydrocarbons have about 10 to about 30
2 carbon atoms.
- 1 30. The drilling fluid of claim 27 wherein said paraffin hydrocarbons comprise about 1 to about
2 99 weight percent of said blend.

1 31. The drilling fluid of claim 27 wherein said esters comprise about 10 to about 99 weight
2 percent of said blend.

1 32. The drilling fluid of claim 27 wherein said esters are prepared from fatty acids and alcohols.

1 33. The drilling fluid of claim 27 wherein said esters are prepared from fatty acids having about
2 6 to about 14 carbon atoms and an alcohol.

1 34. The drilling fluid of claim 27 wherein said esters are prepared from fatty acids having about
2 12 to about 14 carbon atoms and 2-ethyl hexanol.

1 35. The drilling fluid of claim 27 wherein said esters are prepared from fatty acids having about
2 8 carbon atoms and 2-ethyl hexanol.

1 36. The drilling fluid of claim 27 wherein said esters are prepared from olefins.

1 37. The drilling fluid of claim 27 wherein said esters are prepared from olefins and fatty acids
2 or alcohols.

1 38. A drilling fluid comprising an invert emulsion wherein said invert emulsion has a base or
2 continuous phase comprising a blend of esters and mineral oil hydrocarbons.

- 1 39. The drilling fluid of claim 38 wherein said mineral oil hydrocarbons comprise less than
2 about 1 weight percent aromatics.
- 1 40. The drilling fluid of claim 38 wherein said mineral oil hydrocarbons are selected from the
2 group comprising linear paraffins, isoparaffins, cycloparaffins, branched paraffins, cyclic
3 paraffins, and mixtures thereof, having about 10 to about 30 carbon atoms.
- 1 41. The drilling fluid of claim 38 wherein said mineral oil hydrocarbons comprise olefins, having
2 about 10 to about 30 carbon atoms.
- 1 42. The drilling fluid of claim 41 wherein said olefins have chemical structures similar to
2 paraffins, isoparaffins, cycloparaffins, or branched paraffins.
- 1 43. The drilling fluid of claim 38 wherein said esters comprise at least about 10 to about 99
2 weight percent of said blend.
- 1 44. The drilling fluid of claim 38 wherein said esters are prepared from fatty acids and alcohols.
- 1 45. The drilling fluid of claim 38 wherein said esters are prepared from fatty acids having about
2 6 to about 14 carbon atoms and 2-ethyl hexanol.

- 1 46. The drilling fluid of claim 44 wherein said esters are prepared from fatty acids having about
2 12 to about 14 carbon atoms and 2-ethyl hexanol.
- 1 47. The drilling fluid of claim 44 wherein said esters are prepared from fatty acids having about
2 8 carbon atoms and 2-ethyl hexanol.
- 1 48. The drilling fluid of claim 38 wherein said esters are prepared from olefins.
- 1 49. The drilling fluid of claim 38 wherein said esters are prepared from olefins and fatty acids
2 or alcohols.
- 1 50. A drilling fluid comprising an invert emulsion wherein said invert emulsion has a base or
2 continuous phase comprising a blend of esters and glyceride triesters.
- 1 51. The drilling fluid of claim 50 wherein said glyceride triesters comprise about 1 to about 99
2 weight percent of said blend.
- 1 52. The drilling fluid of claim 50 wherein said glyceride triesters are obtained or derived from
2 an oil selected from the group comprising: rapeseed oil, olive oil, canola oil, castor oil,
3 coconut oil, corn oil, cottonseed oil, lard oil, linseed oil, neatsfoot oil, palm oil, peanut oil,
4 perilla oil, rice bran oil, safflower oil, sardine oil, sesame oil, soybean oil, sunflower oil, and
5 mixtures thereof.

- 1 53. The drilling fluid of claim 50 wherein said esters comprise about 10 to about 99 weight
2 percent of said blend.
- 1 54. The drilling fluid of claim 50 wherein said esters are prepared from fatty acids and alcohols.
55. The drilling fluid of claim 54 wherein said esters are prepared from fatty acids having about
12 to about 14 carbon atoms and 2-ethyl hexanol.
56. The drilling fluid of claim 54 wherein said esters are prepared from fatty acids and alcohols
having about 8 carbon atoms and 2-ethyl hexanol.
57. The drilling fluid of claim 50 wherein said esters are prepared from olefins.
- 1 58. The drilling fluid of claim 50 wherein said esters are prepared from olefins and fatty acids
2 or alcohols.
- 1 59. A drilling fluid comprising an invert emulsion wherein said invert emulsion has a base or
2 continuous phase comprising a blend of linear alpha olefins and paraffin hydrocarbons.

- 1 60. The drilling fluid of claim 59 wherein said paraffin hydrocarbons are selected from the
2 group comprising linear paraffins, branched paraffins, poly-branched paraffins, cyclic
3 paraffins, isoparaffins, and mixtures thereof.
- 1 61. The drilling fluid of claim 59 wherein said paraffin hydrocarbons have about 10 to about 30
2 carbon atoms.
- 1 62. The drilling fluid of claim 59 wherein said paraffin hydrocarbons comprise about 1 to about
2 99 weight percent of said blend.
- 1 63. The drilling fluid of claim 59 wherein said paraffin hydrocarbons comprise less than about
2 50 weight percent of the blend.
- 1 64. The drilling fluid of claim 59 wherein said linear alpha olefins comprise about 1 to about 99
2 weight percent of said drilling fluid.
- 1 65. The drilling fluid of claim 59 wherein said linear alpha olefins comprise about 10 to about
2 30 carbon atoms.
- 1 66. A drilling fluid comprising an invert emulsion where said invert emulsion has a base or
2 continuous phase comprising isomerized olefins and paraffin hydrocarbons.

- 1 67. The drilling fluid of claim 66 wherein said paraffin hydrocarbons are selected from the
2 group comprising linear paraffins, branched paraffins, poly-branched paraffins, cyclic
3 paraffins, isoparaffins, or mixtures thereof.
- 1 68. The drilling fluid of claim 66 wherein said paraffin hydrocarbons have about 10 to about
2 30 carbon atoms.
- 1 69. The drilling fluid of claim 66 wherein said paraffin hydrocarbons comprise about 1 to about
2 99 weight percent of said blend.
- 1 70. The drilling fluid of claim 66 wherein said isomerized olefins comprise about 1 to about 99
2 weight percent of said drilling fluid.
- 1 71. The drilling fluid of claim 66 wherein said isomerized olefins have about 10 to about 30
2 carbon atoms.
- 1 72. The drilling fluid of claim 56 wherein said isomerized olefins are selected from the group
2 comprising internal olefins, cyclic olefins, and mixtures thereof.
- 1 73. The drilling fluid of claim 72 wherein said internal olefins may be straight chain or branched
2 chain.

1 74. A drilling fluid comprising an invert emulsion wherein said invert emulsion has a base or
2 continuous phase comprising a blend of naphthenic hydrocarbons and other paraffin
3 hydrocarbons.

1 75. The drilling fluid of claim 74 wherein said paraffin hydrocarbons are selected from the
2 group comprising linear paraffins, branched paraffins, poly-branched paraffins, isoparaffins,
3 or mixtures thereof.

1 76. The drilling fluid of claim 74 wherein said paraffin hydrocarbons have about 10 to about 30
2 carbon atoms.

1 77. The drilling fluid of claim 74 wherein said paraffin hydrocarbons comprise about 1 to about
2 99 weight percent of said blend.

1 78. The drilling fluid of claim 74 wherein said naphthenic hydrocarbons comprise about 1 to
2 about 99 weight percent of said drilling fluid.

1 79. The drilling fluid of claim 74 wherein said naphthenic hydrocarbons comprise a saturated,
2 cycloparaffinic material having a chemical formula:



4 where n is about 5 to about 30.

1 80. A drilling fluid comprising an invert emulsion wherein said invert emulsion has a base or
2 continuous phase comprising isomerized olefins and other hydrocarbons.

1 81. A method of drilling a wellbore in a subterranean formation, said method comprising
2 obtaining or preparing the drilling fluid of claim 1 and circulating same in said wellbore
3 during said drilling.

1 82. A method of drilling a wellbore in a subterranean formation, said method comprising
2 obtaining or preparing the drilling fluid of claim 14 and circulating same in said wellbore
3 during said drilling.

1 83. A method of drilling a wellbore in a subterranean formation, said method comprising
2 obtaining or preparing the drilling fluid of claim 27 and circulating same in said wellbore
3 during said drilling.

1 84. A method of drilling a wellbore in a subterranean formation, said method comprising
2 obtaining or preparing the drilling fluid of claim 38 and circulating same in said wellbore
3 during said drilling.

1 85. A method of drilling a wellbore in a subterranean formation, said method comprising
2 obtaining or preparing the drilling fluid of claim 50 and circulating same in said wellbore
3 during said drilling.

1 86. A method of drilling a wellbore in a subterranean formation, said method comprising
2 obtaining or preparing the drilling fluid of claim 59 and circulating same in said wellbore
3 during said drilling.

1 87. A method of drilling a wellbore in a subterranean formation, said method comprising
2 obtaining or preparing the drilling fluid of claim 66 and circulating same in said wellbore
3 during said drilling.

4 88. A method of drilling a wellbore in a subterranean formation, said method comprising
5 obtaining or preparing the drilling fluid of claim 74 and circulating same in said wellbore
6 during said drilling.

1 89. A method of drilling a wellbore in a subterranean formation, said method comprising
2 obtaining or preparing the drilling fluid of claim 80 and circulating same in said wellbore
3 during said drilling.